



State of Utah

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

February 21, 1991

Mr. Glenn P. Jones, Manager
Mining and Properties
General Refractories Company
600 Grant Street, Room 3000
Pittsburgh, Pennsylvania 15219

Dear Mr. Jones:

Re: Completeness Review, Notice of Intention of Commence Large Mining Operations, General Refractories Company, Roudabush #1 Mine, M/045/027, Tooele County, Utah

The Division has finalized its review of General Refractories Company's (GRC) Notice of Intention to Commence Large Mining Operations at the Roudabush #1 Mine. We apologize for the delay in completing this revised review document and appreciate your patience and understanding in this regard. This application will effectively upgrade and expand your existing small mining operation to a large mining category. Your application has been determined conceptually complete. However, a few technical concerns will need to be addressed before we can proceed with issuance of a Notice of Tentative Approval for this application. At your earliest convenience, please provide a written response to the following concerns so that the Division may determine the application technically complete, publish notice of its Tentative Approval and initiate the required 30-day public comment period:

R613-004-105.2 Maps, Drawings and Photographs

1. The operator has not shown all existing and/or proposed locations for the surface facilities at the mine on the maps provided in the application. Specifically, the location of the topsoil stockpile(s) that currently exist along the southwestern edge of the mine site area. The coarse ore stockpile that exists on the southern side of the main access road was also not shown on the maps in the application. A border clearly outlining the existing and proposed acreage to be disturbed by mining operations was also not included. Please revise one of the existing maps (Sheet 2 or 3), or prepare a new "Surface Facilities" map that includes all pertinent information as required by this rule.

2. Sheet 3, Mine Phasing, has portions of the map stippled and cross-hatched with different shaded patterns. No key or legend is provided on the map to enable the reviewer to interpret these patterns. Please revise this map to include a key explaining the significance of these symbols.

R613-004-106.3 Operation Plan

The permit application listed the total estimated disturbed acreage as **13.5** acres (12 acres = mine site, 1.5 acres = access/haul roads). The following disturbed acreage was planimeted from Map 3, "Mine Phasing": present mine quarry area = 4 acres; future quarry area = 17.3 acres; spoil pile = 0.6 acre; stockpile area = 1 acres; access roads within the pit area = 0.7 acres, area between pit and pads = 2.4 acres, rock pads = 1.2 acres, and road stockpile (not shown) = @ 0.3 acres. These measurements total **26.9** acres of disturbance. The application should be revised accordingly. This figure was used in calculating the Division's reclamation surety estimate.

R613-004-107.2 & .3 Operation Practices

The mining activities have impacted a small ephemeral drainage channel situated immediately south of the main mining/processing area. This drainage parallels the main access road leading onto the site for a short distance. As of the Division's last field inspection of the mine site, the channel had been blocked with fill to create a small impounding area to collect water which would normally flow down this drainage bypassing the mine site. The drainage is also breached by the main access road at the point where it enters the southeastern end of the mine site disturbance.

Given the intermittent nature of mining at this site, the Division will require that the fill impounding this small drainage be removed to permit unrestricted flow of undisturbed area runoff. The portion of the ephemeral channel, at the southern end of the mine site, that is crossed by the main access road, must be sufficiently armored or otherwise lined to minimize additional contributions of disturbed area sediment offsite. The Division's preferred option would be to request that the operator install a properly sized (25-year runoff event) culvert to bypass the undisturbed drainage without impact from the mining operation.

Page 3
Mr. Glenn Jones
M/045/027
February 21, 1991

R613-004-111 Reclamation Practices

1. The operator will need to amend the seed mix found on page 8 of the Notice of Intention. The total of all seeded species should be less than 20 lbs/ac. Also, the range and number of species need to be changed. Below is the Division's seed mix recommendation:

Common Name	Scientific Name	*Lbs/acre
<u>Grasses</u>		
Sandbox Bluegrass	Poa secunda	3
Bluebunch Wheatgrass	Agropyron spicatum	3
Western Wheatgrass	Agropyron smithii	3
Indian Ricegrass	Oryzopsis hymenoides	2
<u>Forbs</u>		
Alfalfa	Medicago hispata	2
Yellow Sweet Clover	Melilotus officinalis	2
Palmer Penstemon	Penstemon palmeri	2
<u>Shrubs</u>		
Bitterbrush	Persia tridentata	2
Fourwing Saltbrush	Atriplex canescens	2
TOTAL		<hr/> 19

*Broadcast seeding rate

2. The operator needs to specify in the plan that 4,000 lbs (2 tons)/acre of alfalfa mulch will be used at final reclamation. Especially on areas where the minus 1/2 inch material is to be redistributed.

R613-004-111 Reclamation Practices - Soils

Based on a field inspection of the site by Division technical staff, a determination was made that topsoil has been stockpiled on site. The operator needs to specify in the plan, the final redistribution location for this material with respect to the minus 1/2 inch material to be used upon reclamation of the quarry.

Page 4
Mr. Glenn Jones
M/045/027
February 21, 1991

R613-004-112 Variance

GRC has requested variances from certain sections of rules R613-004-106 and 110, Operation and Reclamation Plan. The Division will grant the variances from topsoil salvaging and replacement due to the lack of sufficient surficial material on the mine site.

The Division accepts GRC's proposal to redistribute the rejected fines material over the quarry floor upon reclamation. The fines must be amended appropriately prior to seeding and mulching.

GRC will need to specify the type of fertilizer and the rate to be used at final reclamation. GRC indicated in the plan, that a fertilizer and rate would be based on an analysis of the processing waste material. This needs to be specified before permit approval and not be postponed.

The Division will require that a nutrient evaluation be performed on the processed material or a blanket application of 200 lbs/acre diammonium phosphate (18-46-0) be used.

R613-004-113 Surety

The Division has calculated a \$97,800 (1996 dollars) reclamation surety estimate based upon 26.9 acres of disturbance. The reclamation estimate was based upon third party costs to reclaim the site. A copy of the reclamation estimate is attached. As you can see, the "material redistribution" cost factor accounts for the largest portion of the reclamation estimate (\$47,400). We assumed a worst case scenario of having to distribute the total 30,000 cubic yard volume of stockpiled waste fines over the entire quarry floor upon final reclamation. The \$97,800 reclamation estimate does not credit the operator's posting of a \$15,000 escrow account with the Tooele County Corporation for reclamation of the quarry. Deducting this amount from the total and rounding to 1996 dollars would yield a residual surety of \$82,800. GRC may choose to post an incremental reclamation surety rather than bond for the total 26.9 acre, life of mine disturbance. Incremental bonding could effectively reduce the amount of surety to an amount that may be more manageable to GRC over a shorter term (eg., area to be disturbed over a 5-year time period versus life of mine).

Contemporaneous reclamation would also have an impact on lowering the surety costs. Should GRC decide to pursue an incremental bonding or

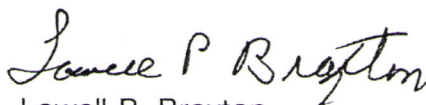
Page 5
Mr. Glenn Jones
M/045/027
February 21, 1991

contemporaneous reclamation scenario, then the application will need to be revised accordingly to include pertinent supplemental information.

The Division will seek an agreement with Tooele County regarding the final conditions for release of their \$15,000 reclamation surety. The Division will require that the reclamation surety not be released by Tooele County until the operator has satisfied all of the reclamation obligations pursuant to the Utah Mined Land Reclamation Act (Title 40-8, et. seq., as amended) and the approved mining and reclamation plan. Upon our attainment of this agreement with Tooele County, we will be able to effectively reduce the required amount of surety by \$15,000. This will lower the amount of surety required by this Division to \$82,800 (1996 dollars).

These technical concerns will need to be addressed by the operator before we can grant our tentative approval for this application. Please contact me, or D. Wayne Hedberg of the Minerals Program technical staff if we can answer any questions regarding the content of this letter. Again we appreciate your patience and cooperation in finalizing this permitting action.

Sincerely,



Lowell P. Braxton
Associate Director, Mining

jb
Attachments
cc: Rod Thompson, Tooele County
Brent Bradford, Division Environmental Health
Minerals staff
M045027.1

Reclamation Estimate

General Refractories Company

Roudabush Mine Tooele County M/045/027

last revision 2/19/91

Prepared by Utah State Division of Oil, Gas & Mining

Reclamation Plan Details

- Bench highwall (20 ft wide bench every 25 ft vertical)
- Remove rock pads near stockpile areas (1.2 acre, 1 ft deep)
- Rip: entire pit floor (21.3 acre), rock pads, between pit & pads (2.4 acre),
- spoil (0.1 acre), stockpile(1.0 acre), road(0.1 acre), road stockpile(0.3 acre)
- Distribute fines over pit floor, fines estimated at 7% annual production
- Restore channel & riprap (@500 ft long, 6" of riprap)
- Spread topsoil stockpiled (estimated vol= 300 CY)
- Revegetation, adding soil nutrients (26.9 acres)
- Mobilization (third party doing reclamation)
- TOTAL SURFACE DISTURBANCE = 26.9 ACRE

<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Cost(\$)</u>
Bench Highwall	1		lump sum	10,000
Remove Rock Pads	1,940	CY	1.23	2,386
Rip: pit, road, piles, pads, etc	26.9	acre	306.00	8,231
Material Redistribution	30,000	CY	1.58	47,400
Restore Channel & Riprap	1		lump sum	1,000
Spread Topsoil	300	CY	0.54	162
Revegetate	26.9	acre	468.00	12,589
Mobilization	1		lump sum	1,000
SUBTOTAL				82,769
+10% CONTINGENCY				8,277
SUBTOTAL				91,046
+ ESCALATION (1.45% for 5 years)				6,795
SUBTOTAL				97,841
ROUNDED TOTAL(1996-\$)				97,800

less bond amount held by TOOELE COUNTY - 15,000

ROUNDED TOTAL(1996-\$) 82,800

*** cost per acre = \$ 3,636 ***